Claim 1 has been amended to clarify the features thereof, and new dependent claims 13-18 have been presented which further define features of the present invention.

With regard to the drawing objections with regard to reference characters "5" and "26", by the proposed amendment to the drawings, Fig. 3 has been amended to change "5" to "26" in accordance with the description in the specification, such that this drawing objection should now be overcome. Upon approval of the drawing corrections submitted herewith and those submitted on March 6, 2000, which are responsive to the Notice of Draftspersons Patent Drawing Review, the drawings should be considered to be in compliance with 37 CFR 1.84 and formal drawings incorporating such proposed changes will be submitted in accordance with the procedures provided therefor.

Turning to claim 1, applicants note that this claim has been amended to define the feature that the absolute values of differential values of the flattened reflectance curve in a visible light region of 380 nm - 780 nm are equal to or less than 2. As described at page 7, lines 14-18 of the specification, the reflectance of the anti-reflection film is expressed as a luminance reflectance, which is an area of the curve obtained by multiplying the reflectance of the film in a visible light region of 380 nm - 780 nm with the luminosity sensitivities of the respective wavelengths. As described in connection with Fig. 2 of the drawings of this application, at page 14 of the specification, a Braun-tube having a flat

reflecting characteristic was manufactured and absolute values of the calculated differentials of the reflectance curve are equal to or less than 2. As described at page 14, lines [illegible] of the specification, the differential of the reflectance is represented by the slope of the reflectance curve 14 in Fig. 2, but the differential of the reflectance can also be obtained by differentiating the reflectance obtained by a spectrophotometer or by using a differentiating program of the spectrophotometer (U3500 made by Hitachi, Ltd.). Applicants note that absolute values of differential values of the flattened reflectance curve in the visible light region of 380 nm - 780 nm being equal to or less than 2, represents a variation of the differential values within a range of +2 to -2, i.e. 121. As noted above, claim 1 has been amended to recite the visible light region for the flattened reflectance curve.

The rejection of claim 1 under 35 U.S.C. §102(e) as being anticipated by Oyama et al (US 5,942,319) and the rejection of claim 2 under 35 U.S.C. §103(a) as being unpatentable over Oyama et al in view of Itoh et al (US 5,939,821) and Aben et al (US 6,208,389), such rejections are traversed insofar as they are applicable to the present claims, and reconsideration and withdrawal of the rejections are respectfully requested.

At the outset, applicants note that claims 1-12 were pending in this application at the time of the issuance of the Office Action of June 28, 2001, and it is noted that only

claims 1 and 2 have been rejected over the cited art in the manner indicated above. Since no stated rejections of claims 3-12 appear in the Office Action, applicants submit that the Examiner has apparently recognized the patentability of such claims and claims 3-12 are considered to be in condition for allowance.

As to the requirements to support a rejection under 35 U.S.C. §102, reference is made to the decision of In re Robertson, 49 USPQ 2d 1949 (Fed. Cir. 1999), wherein the court pointed out that anticipation under 35 U.S.C. §102 requires that each and every element as set forth in the claim is found, either expressly or inherently described in a single prior art reference. As noted by the court, if the prior art reference does not expressly set forth a particular element of the claim, that reference still may anticipate if the element is "inherent" in its disclosure. To establish inherency, the extrinsic evidence "must make clear that the missing descriptive matter is necessarily present in the thing described in the reference, and that it would be so recognized by persons of ordinary skill." Moreover, the court pointed out that inherency, however, may not be established by probabilities or possibilities. The mere fact that a certain thing may result from a given set of circumstances is not sufficient.

With regard to the requirements to support a rejection under 35 U.S.C. §103, reference is made to the decision of In

re Rinehart, 189 USPQ 2d 1596 (Fed. Cir. 1988), wherein the court pointed out that the PTO has the burden under §103 to establish a prima facie case of obviousness and can satisfy this burden only by showing some objective teaching in the prior art or that knowledge generally available to one of ordinary skill in the art would lead that individual to combine the relevant teachings of the references. As noted by the court, whether a particular combination might be "obvious to try" is not a legitimate test of patentability and obviousness cannot be established by combining the teachings of the prior art to produce the claimed invention, absent some teaching or suggestion supporting the combination. As further noted by the court, one cannot use hindsight reconstruction to pick and choose among isolated disclosures in the prior art to deprecate the claimed invention.

Turning to the rejection of claim 1 over Oyama et al, irrespective of the position set forth by the Examiner, the reflectance shown in Figure 10 of Oyama et al indicates that the minimum reflectance is less than 1%, but the reflectance increases rapidly in the region of wavelength less than 450 nm. Using this result of Fig. 10 of Oyama et al, differential values were calculated by a calculation program of spectrophotometer as described at page 7 of the specification of this application, and the results shown in the attached figure 1 were obtained. In accordance with the result, it is apparent that the differential values absolute values of Oyama

et al., represented by upper curve in the attached F.I.G. 1, [illegible] will fall in a range of +2 to -2 in the visible light wavelength range of 380—780 nm. More particularly, the differential values of Oyama et al in the visible light region of 380-450 have a value greater than -2 such that Oyama et al fails to provide the claimed features of claim 1, as amended, in the sense of 35 U.S.C. §102.

For comparison purposes, the reflectance and the differential values of the present invention calculated in the same manner are indicated in the attached Figure 2.

The feature of the anti-reflection film of the present invention are the anti-reflection film does not cause the rapid increase of the reflectance in the low wavelength region; the anti-reflection function is obtainable in all the visible light region; the anti-reflection film having a high performance can be prepared; and a significantly conspicuous display having a small outer light reflection is realized. Thus, in accordance with the recited features of claim 1, the present invention provides "a flattened reflectance curve, of which absolute values of differential values in a visible light region of 300 nm 780 nm are equal to or less than 2". Applicants submit that claim 1, as amended, patentably distinguishes from Oyama et al in the sense of 35 U.S.C. §102, and should be considered allowable thereover.

With regard to the rejection of claim 2, it is noted that claim 2 depends from claim 1, which has been amended, as

[illegible] above, and it is apparent that Oyama et al [illegible] the recited features of claim 1 in the sense of 35 U.S.C. §102 or in the sense of 35 U.S.C. §103.

Furthermore, the absorption films of Oyama et al and Aben et al are films having a luminous transmittance equal to or less than 80% in all the visible light region. In contradistinction, the absorption film of the present invention is a film having a base line of the luminous transmittance at 90% and a selective absorption of light at approximately 450 nm, 560 nm, and 680 nm, as shown in Fig. 2 of the drawings of this application. The luminescent spectrum can be made sharp by absorbing unnecessary portions of the luminescent spectrum by the absorption film. Therefore, a display device having a preferable contrast can be made with the absorption film.

Turning to Itou et al, applicants note that Itou et al differs significantly from the present invention in that the absorption film of Itou et al is coated onto the inner plane of Braun-tube glass whereas the absorption film of the present invention is coated onto the outer plane of surface of the display to Braun-tube glass. In this manner, the Braun-tube can be manufactured readily with a low cost. Another significant point of difference as pointed out with respect to Oyama et al is in reflectance and differential values. The patent of Itou et al is silent with respect to reflectance.

In accordance with the present invention, the [illegible] absorption film is coated onto the inner surface of the [illegible]. A general relationship between luminous transmittance and reflectance of the absorption film is indicated in the attached Figure 3. Because the refractive index of the film is varied significantly with the wavelength which generates luminous absorption, the anti-reflection film having a laminated structure utilizing the difference of the refractive indexes can not be effective. Even in a case when a layer of the absorption film is coated onto the surface of the glass, the reflectance can not be controlled in all the visible light region, because the refractive index of the absorption film differs from that of the glass. A relationship of light absorption and refractive index is shown in the attached Figure 4. The refractive index of the film, which absorbs light, varies remarkably in the absorbed wavelength region. Owing to the variation of the refractive index, the anti-reflection film using a laminated structure can not control the reflectance, because the variation of the refractive index is significant at the absorption region of the film. As a result, reflection prevention in all of the visible light region is not achieved. If the absorption peak is sharp, the variation of the refractive index is significant. Therefore, control of reflectance is difficult with the selective absorption film having a luminous transmittance equal to [illegible] than 15%.

In contradistinction, the surface treating film of the present invention differs from the cited art including Arai et al, Itou et al and Oyama et al with regard to the differential values and the absorbing of the selective light at the wavelength of 450 nm, 570 nm and 650 nm as recited in claim 2, and makes it possible to prevent reflection in all of the visible light region. Accordingly, a display device having a small outer light reflection and a preferable contrast can be provided.

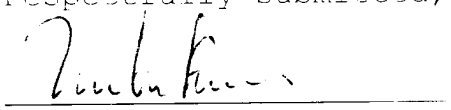
Applicants further note that if a laminated film of SiO conductive layers as an anti-reflection film, and an absorption film are simply laminated to form a three layered structure, the variation of the refractive index of the absorption film creates problems, and reflection prevention in all the visible light region is impossible. The present invention, however uses a metallic film as a conductive film, and makes it possible to provide film having a small reflectance in all of the visible light region even if the film has a selective absorption of the visible light. As pointed out above, the cited art cannot be properly combined and the resultant combination does not provide the recited features of claim 1 and claim 2 in the sense of 35 U.S.C. §103. See In re Fine, supra. Thus, applicants submit that claim 2 patentably distinguishes over the cited art and should be considered allowable at this time.

With respect to claims 3-12, as pointed out above, such claims have not been rejected over the cited art and thus are now believed to be in condition for allowance. By the present amendment, new dependent claims 13-18 have been presented, which further define features of the present invention and applicants submit that such dependent claims should also be considered allowable at this time.

In view of the above amendments and remarks, applicants submit that all claims present in this application should now be in condition for allowance, and issuance of an action of a favorable nature is courteously solicited.

To the extent necessary, applicant's petition for an extension of time under 37 CFR 1.136. Please charge any shortage in the fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account No. 01-2135 (503.37677X00) and please credit any excess fees to such deposit account.

Respectfully submitted,



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VERSION WITH MARKINGS TO SHOW CHANGES MADE

IN THE TITLE OF THE INVENTION:

Please amend the title of the invention to:

A DISPLAY APPARATUS WITH A MULTI-LAYER ABSORPTION, CONDUCTION AND PROTECTION FILM

IN THE SPECIFICATION:

Page 13, please amend the paragraph beginning at line 20 as follows:

Then, a fine particle Ag-Pd dispersion liquid was applied by a spin coating method at 160 rpm and dried at 60°C for 5 minutes, to laminate an Ag-Pd film 10 onto the SiO_2 film 9 containing a coloring material. Finally, silica sol was applied by a spin coating method at 160 rpm and dried at 60°C for 5 minutes, to form a SiO_2 film 11.

IN THE CLAIMS:

Please amend claim 1 as follows:

1. (amended) A display apparatus comprising a film on a display plane, wherein said film has:

a luminous transmittance equal to or less than 85%,

a luminous reflectance equal to or less than 2%, and

a flattened reflectance curve, of which absolute values of differential values in a visible light region of 380 nm - 780 nm are equal to or less than 2.

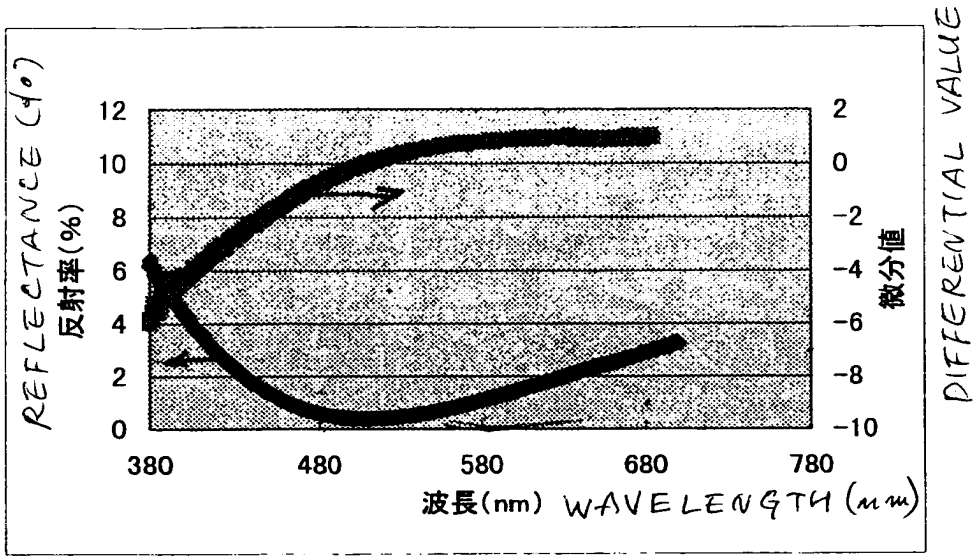


図1 Oyamaの結果類似のデータの場合

FIG. 1 THE CASE OF DATA SIMILAR WITH THE RESULT OF OYAMA

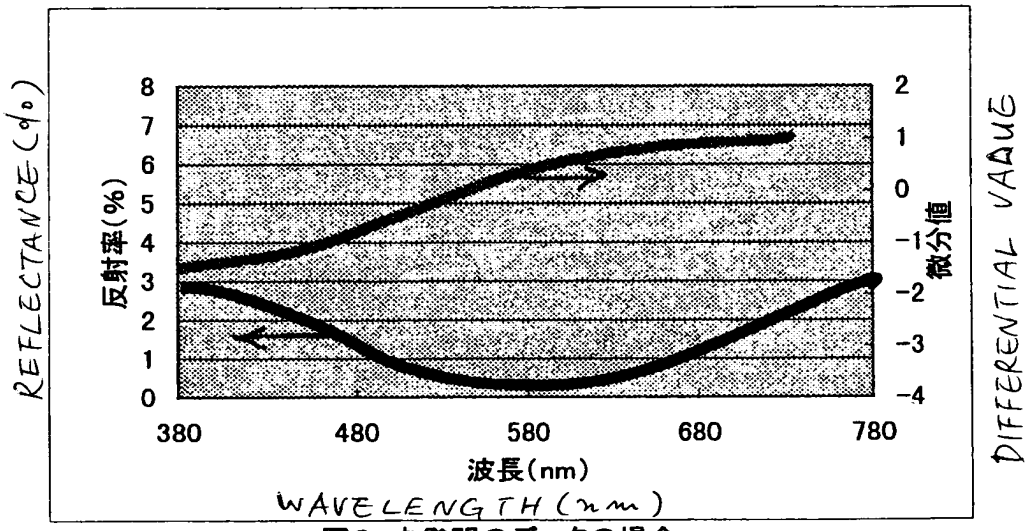
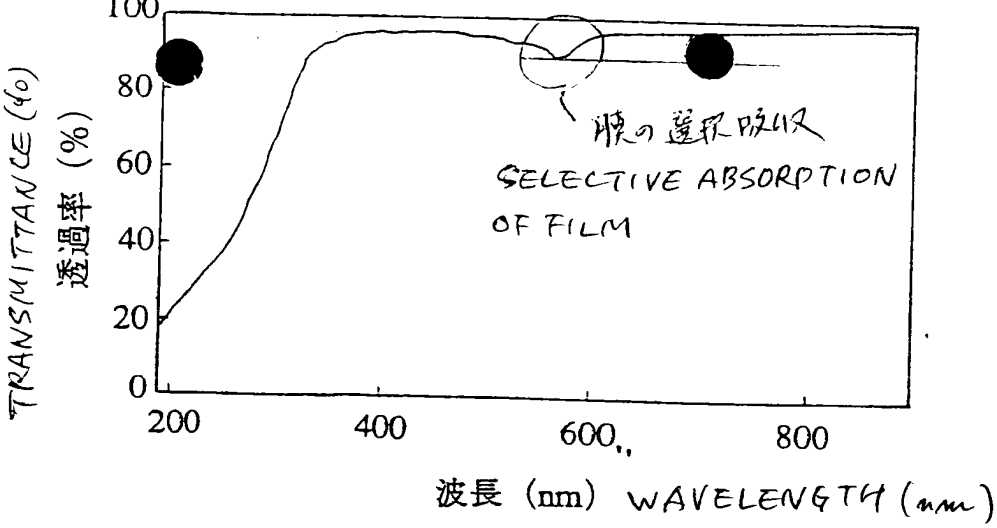
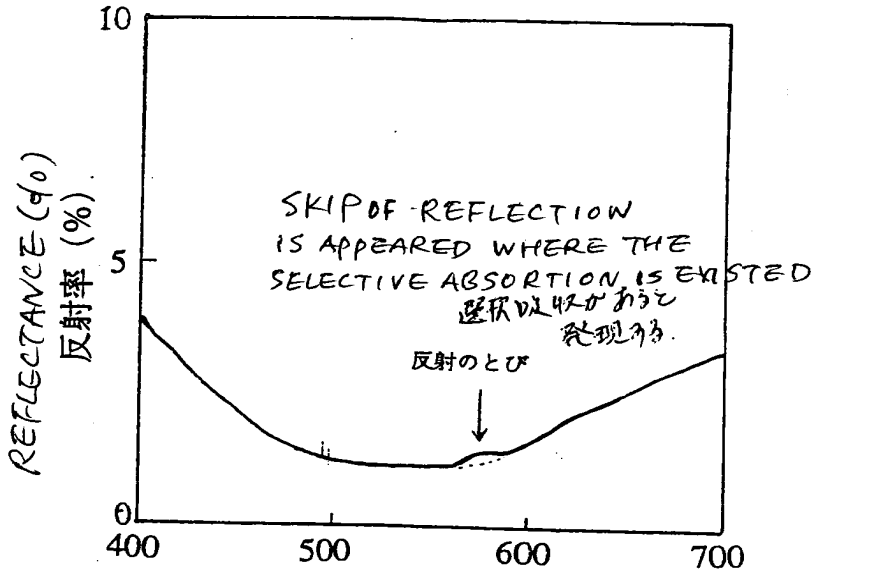


図2 本発明のデータの場合

FIG. 2 THE CASE OF DATA OF THE PRESENT INVENTION





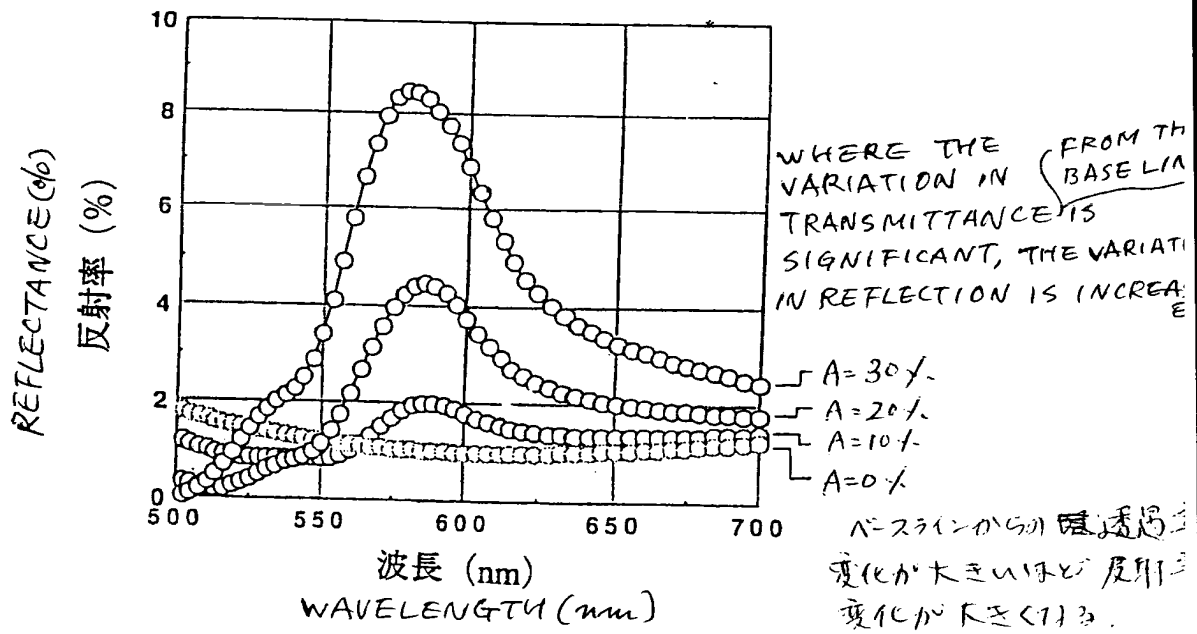


図3 透過率と反射率の関係.

FIG. 3 A RELATIONSHIP (BETWEEN) TRANSMITTACE AND REFLECTAN

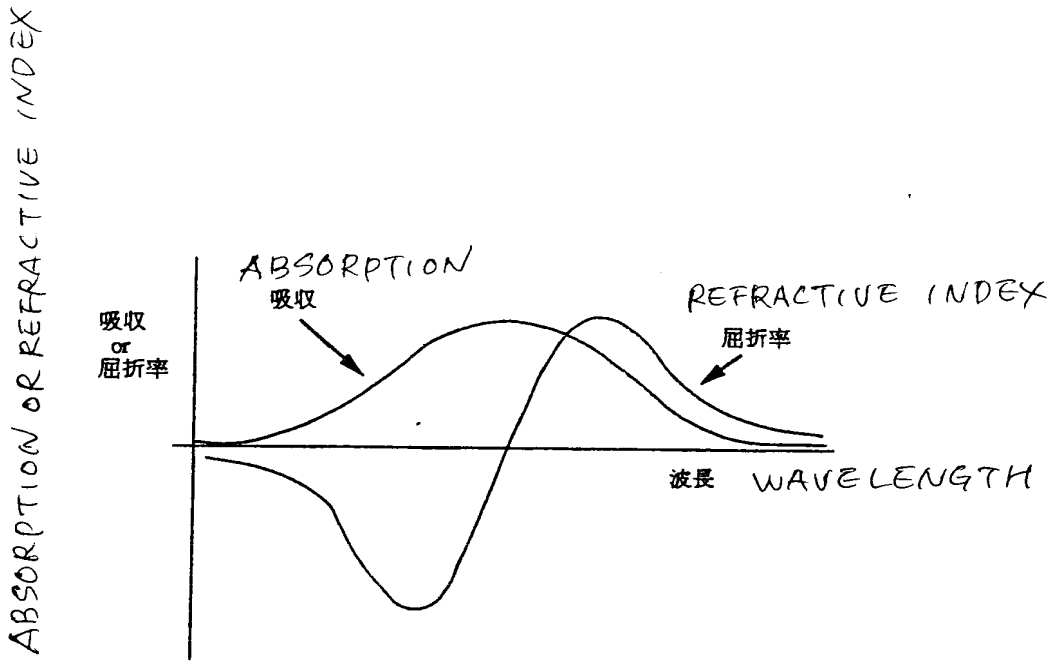


図4 光の吸収と屈折率の関係。

FIG. 4. A RELATIONSHIP BETWEEN LIGHT ABSORPTION AND REFRACTIVE INDEX